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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/020,826

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John R. Geary

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01/06/2005

Chief Intellectual Property Counsel
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EXAMINER

VO, HAI

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,826

Applicant(s)

GEARY ET AL.

Examiner

Hai Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-7,21 and 23-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,21 and 23-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. All of the art rejections are withdrawn in view of the present amendment and response. However, However, upon further consideration, new grounds of rejections are made in view of Collins et al (US 5,846,461) in view of Demou et al (US 3,804,782), and Clayton et al (US 5,735,092) in view of Blount (US 4,743,624).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5-7, 23-29 and 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al (US 5,846,461) in view of Demou et al (US 3,804,782) as evidenced by Pennings et al (US 4,200,579). Collins teaches a carpet pad comprising a polyurethane foam upper layer 132, a polyurethane foam lower layer 130 reinforced with scrap rubber from recycled tires, and a polyethylene liner 94 (figure 7). Collins teaches that the bottom foam layer 130 can be formed from an isocyanate compound and polyol (column 3, lines 45-50). Likewise, Collins discloses the bottom foam layer made from polyisocyanurate. Since the nature of the substrate material and second facer material is not defined in claims 5 and 6, the polyurethane foam upper layer 132 of Collins reads on Applicants' substrate material and Applicants' second facer material as

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well. It is known in the art that typical rubber found in scrap tires are polyurethane, polyisocyanurate and EPDM (Pennings et al (US 4,200,579)). Collins discloses that the polyurethane foam bottom layer is made from polyurethane foam reinforced with ground rubber. Therefore, it is respectfully admitted that the foam forms a continuous phase and the ground rubber forming a discontinuous phase. It is believed that the ground rubber would be inherently fully dispersed within the foam during the mixing the ground rubber with the foam. Collins teaches the foam has a thickness from 3/8 to 1/2 inch within the claimed range. Collins does not specifically teach an isocyanate index of the foam. Demou, however, teaches the flexible polyurethane foam having an isocyanate index of 200 (table IV). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polyurethane foam having an isocyanate index of 200 as a bottom foam layer of Collins motivated by the desire to obtain the foam having increased flame retardant properties.

4. Claims 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al (US 5,846,461) in view of Demou et al (US 3,804,782) as applied to claim 29, further in view of Joubert (US 4,452,920). Collins is silent as to the weight ratio of the ground rubber to the polyurethane foam. Therefore, it is necessary and thus obvious for the skilled artisan to look to the prior art for the suitable weight ratio of the filler to the foam. Joubert teaches the carpet underlay made from a polyurethane

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reinforced with the ground rubber in an amount of 40% by weight based on 100% by weight of polyurethane foam (column 11, lines 10-11, table 1), meeting the range set out in the claims. In an absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the ground rubber with a weight ratio within the range instantly claimed, motivated by the desire to provide the foam with excellent physical properties at lower costs

5. Claims 1, 2, 5-7, and 23-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton et al (US 5,735,092) in view of Blount (US 4,743,624) as evidenced by Pennings et al (US 4,200,579). Clayton '092 teaches a composite roofing member including a foam core 11 selected from the group consisting of polyisocyanurate, polyurethane and mixtures thereof; a facer 13 applied to one surface of the foam core and made of a reinforced polymer material; and gypsum board 14 applied to the opposite surface of the foam core (figure 1). The gypsum board corresponds to either a second facer material or a substrate material as recited in the claims. Clayton '092 further discloses a weather protective layer being applied to the recovery board (column 6, lines 10-15). Clayton '092 discloses the polyurethane foam having an iso index above 120 (column 5, lines 5-10). Clayton '092 discloses the board having a thickness of 1.5 to 4 inches (column 4, line 65), within the claimed range. Clayton '092 is silent as to a foam core having been reinforced with a filler material. Blount teaches a rigid foam composite material for use in

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structural building materials comprising a polyurethane foam reinforced with rubber waste to provide the foam with light weight, low cost, effective reinforcement, good fire retardant properties (column 12, lines 50-55, column 13, lines 30-66). Blount discloses that the fillers are ground rubber, polyurethane scrap, plastic chips (column 13, lines 30-67). It is known in the art that typical rubber found in scrap tires is EPDM (Pennings et al (US 4,200,579)). Blount discloses the dispersed filler particles present in an amount of up to 300 % by weight based in weight of the reaction mixture (column 7, lines 15-16), within the claimed range. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ground rubber with the foam core of Clayton '092 motivated by the desire to provide the foam with light weight, low cost, effective reinforcement, and good fire retardant properties. This is important to the expectation of successfully practicing the invention of Clayton '092 and thus suggesting the modification.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton et al (US 5,735,092) in view of Blount (US 4,743,624), as applied to claim 5 above, further in view of Rosato et al (US 4,388,366). Neither Clayton '092 nor Blount specifically discloses the composite board comprising a foam core being sandwiched between the two facers. Rosato teaches an insulation board for use in roofing having a foam core sandwiched between the two facers to provide the foam core with improved dimensional stability (figure 2). Therefore, it would have been

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obvious to one having ordinary skill in the art at the time the invention was made to apply a facer to both sides of the foam core of Clayton '092 as modified by Blount motivated by the desire to provide the foam core with improved dimensional stability.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1, 2, 5-7, and 23-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 5,735,092 in view of in view of Blount (US 4,743,624) as evidenced by Pennings et al (US 4,200,579). Claims 1-8 of U.S. Patent No. 5,735,092 Clayton '092 teaches each and every element of the presently claimed subject matter except the reinforcing filler used with foam core. Blount teaches a rigid foam composite material for use in structural building materials comprising a polyurethane

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foam reinforced with rubber waste to provide the foam with light weight, low cost, effective reinforcement, good fire retardant properties (column 12, lines 50-55, column 13, lines 30-66). Blount discloses that the fillers are ground rubber, polyurethane scrap, plastic chips (column 13, lines 30-67). It is known in the art that typical rubber found in scrap tires is EPDM (Pennings et al (US 4,200,579)). Blount discloses the dispersed filler particles present in an amount of up to 300 % by weight based in weight of the reaction mixture (column 7, lines 15-16), within the claimed range. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ground rubber with the foam core of Clayton '092 motivated by the desire to provide the foam with light weight, low cost, effective reinforcement, and good fire retardant properties. This is important to the expectation of successfully practicing the invention of Clayton '092 and thus suggesting the modification.

9. Claim 21 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 5,735,092 in view of Blount (US 4,743,624) as evidenced by Pennings et al (US 4,200,579) as applied to claim 5 above and further in view of Rosato et al (US 4,388,366). Claims 1-8 of U.S. Patent No. 5,735,092 do not disclose the composite board comprising a foam core being sandwiched between the two facers. Rosato teaches an insulation board for use in roofing having a foam core sandwiched between the two

facers to provide the foam core with improved dimensional stability (figure 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a facer to both sides of the foam core of U.S. Patent No. 5,735,092 motivated by the desire to provide the foam core with improved dimensional stability.

10. Claims 1, 2, 5-7, 23-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,044,604 in view of Blount (US 4,743,624) as evidenced by Pennings et al (US 4,200,579). See the obviousness rational in the paragraph no. 8.

11. Claim 21 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,044,604 in view of Blount (US 4,743,624) as evidenced by Pennings et al (US 4,200,579) as applied to claim 5 above and further in view of Rosato et al (US 4,388,366). See the obviousness rational in the paragraph no. 9.

Response to Arguments

12. The 102 art rejections over Collins et al (US 5,846,461) have been overcome by the present amendment. Collins does not teach an iso index of polyurethane foam.

13. The art rejections over Clayton et al (US 5,735,092) in view of Mushovic (US 5,604,266) have been overcome by the present arguments. As argued by Applicants, Mushovic is concerned with employing complex

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crosslinked networks to solve the problems associated with the prior art.

Conventional rigid polyurethane foam containing more than about 10% by weight filler proved to be a difficult goal in the prior art because these fillers tend to rupture the cells of the foam. Therefore, one of skilled in the art would not be motivated to add such fillers into the rigid polyurethane foam in view of the teachings from Mushovic.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hai Vo

Tech Center 1700